MCS Program Review
For
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Purpose

- **To communicate the MCS program and efforts in terms of:**

  - **Operational Foundation**
  - **What We've Learned, How We've Changed.**
  - **PdM MCS Priorities**
  - **Current efforts to support digital training**

MCS Operational Requirements

JOINT CHIEFS & DEFENSE DEPARTMENT *GCCS*

GCCS-A

THEATER OF OPERATIONS

| XXXX | XXXX | XXXX |
| JTF | ARMY | CJTF |

GCCS-A

OTHER SERVICES/ SYSTEMS

MCS

AFATDS   ATCCS   AMDWS

ASAS   CSSCS

FBCB2

MISSION: **MCS is the Army Battle Command System's (ABCS) Functional Subsystem that directly supports the combined arms force commander and staff by providing automated support for planning, coordinating, controlling and using maneuver functional area assets and tasks. The System coordinates and synchronizes the supporting arms in the conduct of operational planning, field operations and training.**
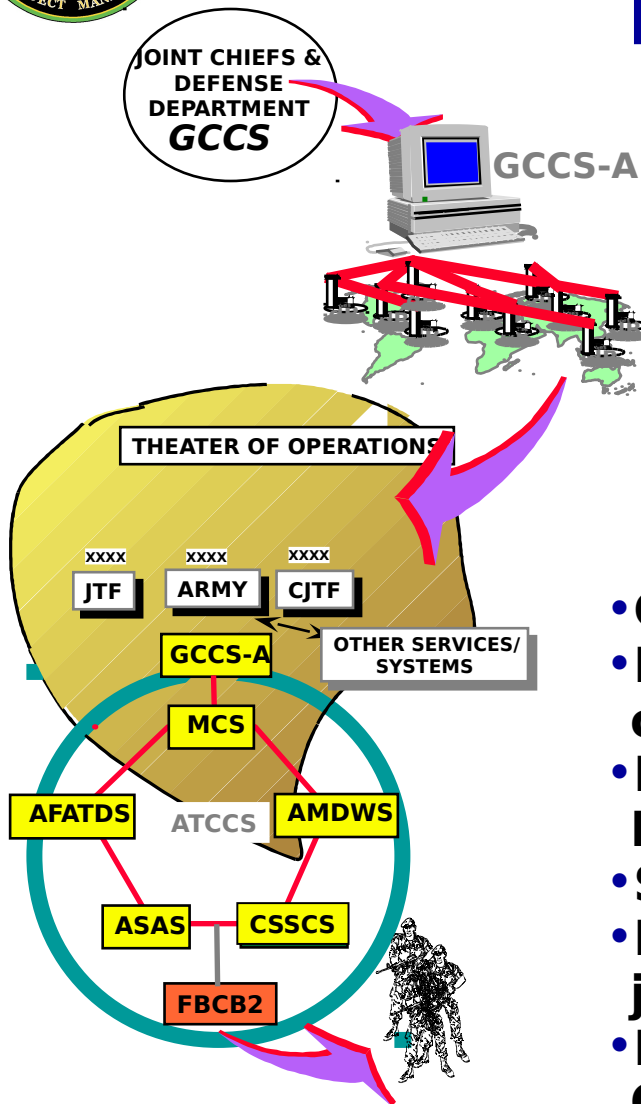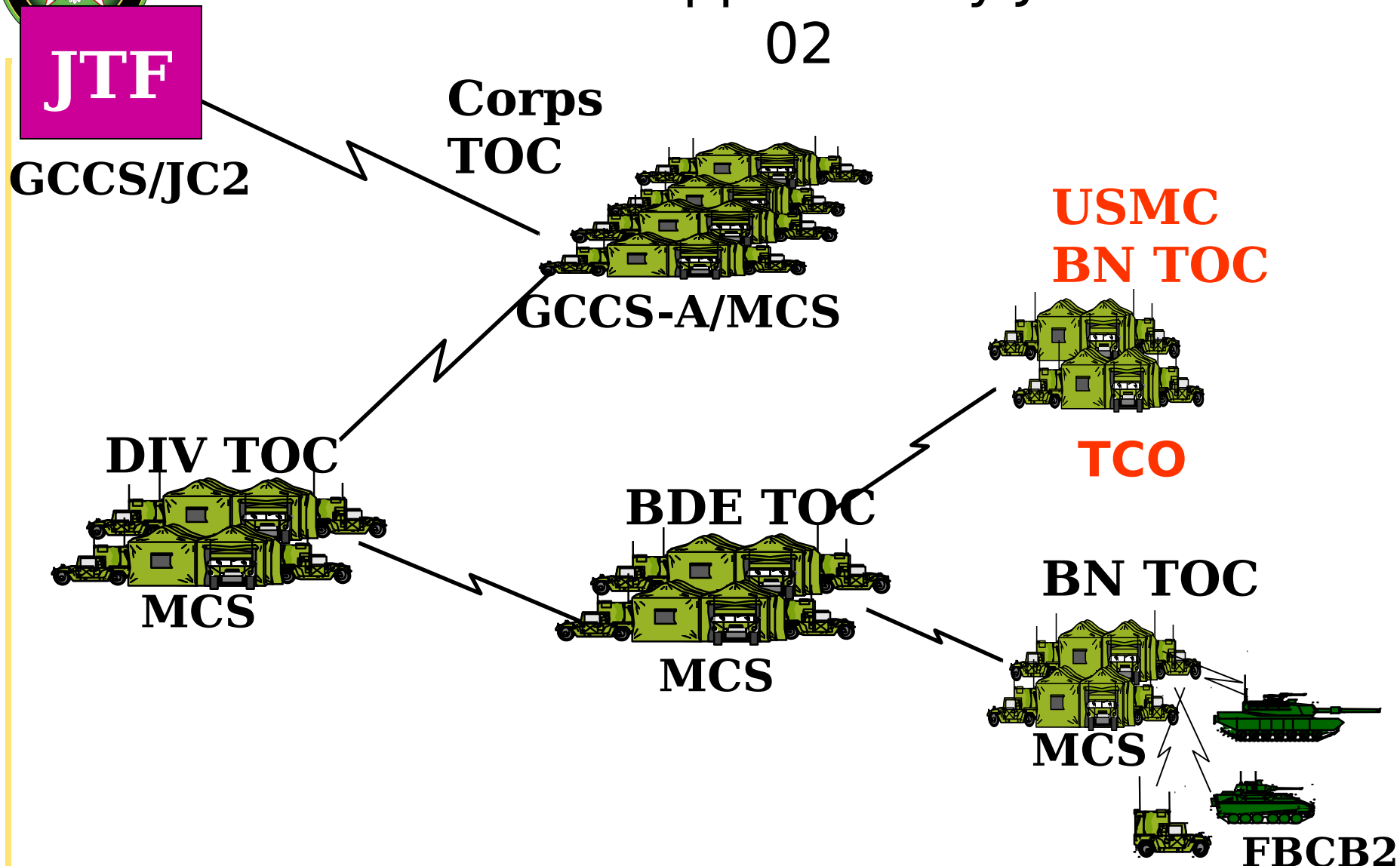
- **Create and manage the COP**
- **Enhance and shorten the decision-making cycle across the operational continuum**
- **Respond to the Commander's Critical Information Requirements (CCIRs)**
- **Supervise execution of operations**
- **Integrate information from other ABCS, joint and combined systems**
- **Enhance planning operations and the OPORD process**
- **Operate in the tactical and garrison environments**
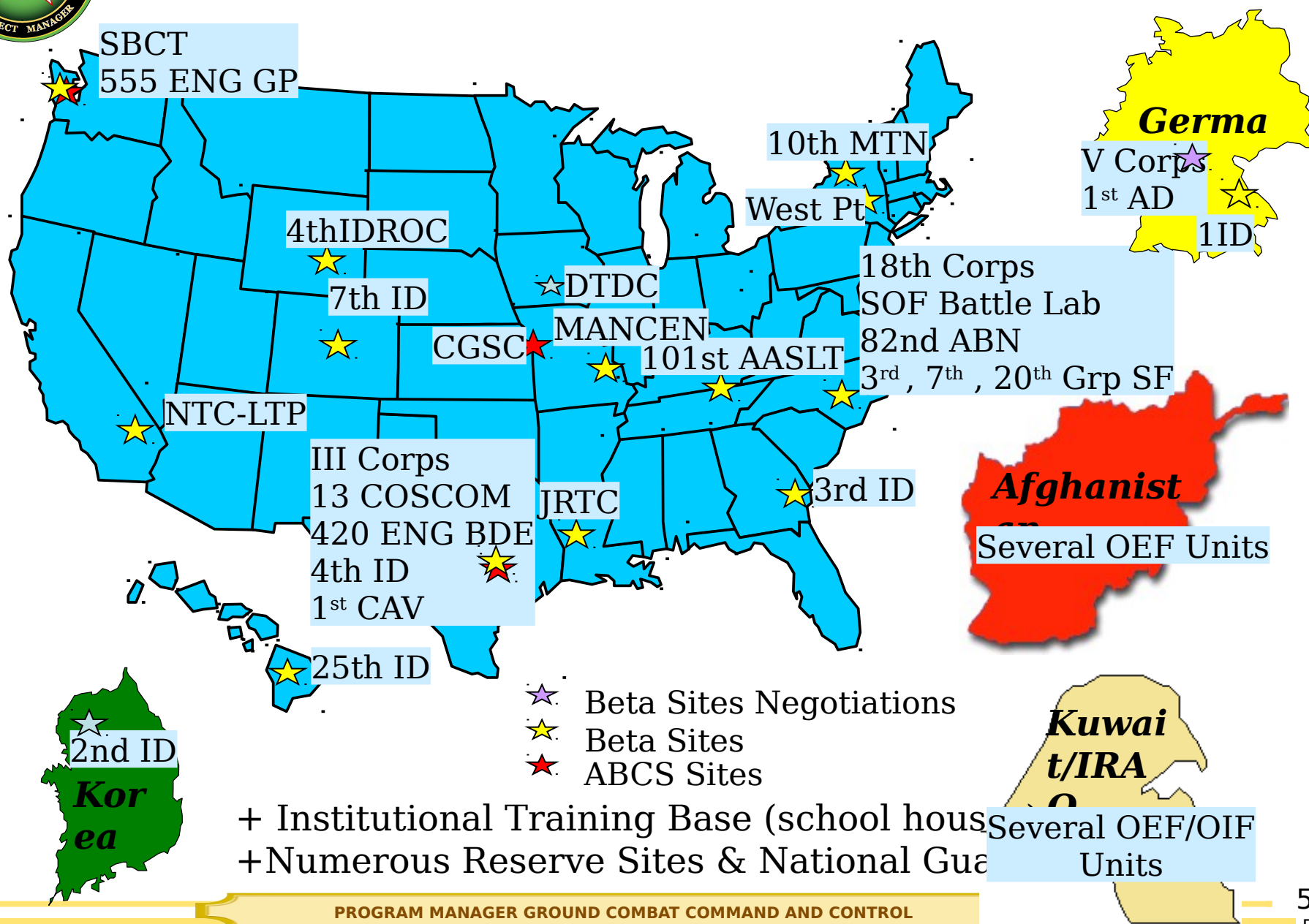
MCS in the Battlespace
As Briefed and Approved by JROC 10 DEC 02

JTF

GCCS/JC2

Corps TOC

GCCS-A/MCS

USMC BN TOC

TCO

DIV TOC

MCS

BDE TOC

MCS

BN TOC

MCS

FBCB2

MCS-L Has a Credible Presence Today

SBCT
555 ENG GP

10th MTN

West Pt

4thIDROC

7th ID

DTDC

MANCEN

CGSC

101st AASLT

18th Corps
SOF Battle Lab
82nd ABN
3rd, 7th, 20th Grp SF

NTC-LTP

III Corps
13 COSCOM
420 ENG BDE
4th ID
1st CAV

JRTC

3rd ID

25th ID

2nd ID

Korea

Germa

V Corps
1st AD

1ID

Afghanistan

Several OEF Units

Kuwait/IRAQ

Several OEF/OIF Units

⭐ Beta Sites Negotiations
⭐ Beta Sites
⭐ ABCS Sites

+ Institutional Training Base (school house)
+ Numerous Reserve Sites & National Guard

MCS Product Evolution

- **MCS Block IV (ABCS 6.3 – Force XXI)**
  - MCS Heavy (Unix VCU Workstations) and MCS Light Laptops (NCUs) mixed throughout the architecture
  - Inflexible architecture that doesn't scale
  - Deployed in III Corps, 4ID, 1CD, SBCT-1, SBCT-2

- **MCS Block IV (ABCS 6.3 – SBCT3)**
  - Removes MCS VCUs from the architecture, and replaces with MCS laptops (NCUs)
  - Introduction of new high-performance "SunFire" Dedicated TOC Servers (Solaris 8)
  - Command Vehicles retain older VCUs due to installation kit cost to change and lead time
  - Being deployed in SBCT-3

- **MCS 6.4 (ABCS 6.4 – "Good Enough")**
  - MCS operator-manned systems entirely Windows laptop based
  - Minimal number of MCS SQL Servers required to support the entire MCS laptop population
  - Introduction of an "AIS Server" as a central standards-based BFA C2 information exchange mechanism
  - To be deployed to SBCT 4 and beyond
  - Core architecture for life cycle retrofit (procurement starts in FY05)

MCS Architecture Migration*

	MCS 6.3, 4ID	MCS 6.4	Benefits
Hardware			• Shift from mixed environment to Windows only • 1.6 X up front cost savings
Fielding & Integration	86 X Shelters (consists of a mix of SICPS RWS, 5-Ton, and Track) 102 X NCUs (CF-71) • 79 X Cable Sets & Computer IK's	180 X NCUs (CF-73) 3 X Dual Xeon MCS Servers • 3 X Shelters required (to house MCS Servers) • 3 X Cable Sets & IK's (for MCS Servers)	• Only field shelters for MCS SQL Servers at DIV. Laptops in HMMWV's • 7.5X reduction in integration costs
Software	• MCS Heavy (Unix - Solaris 7 & 8, Informix RDBMS) • MCS Light (Windows NT/2000)	• MCS W/S (Windows 2000) • MCS Server (Windows Svr, SQL Server RDBMS)	• Single software baseline • 1.4X reduction in software licensing costs
Training	• MCS Light Course (Windows) • MCS Sys Admin Course (Unix/Windows) • MCS Heavy Course (Unix)	• MCS W/S Course (Windows) • MCS Sys Admin Course (Windows)	• Training only Windows based systems leverages user familiarity & increases retention
Unit Sustainment, Logistics	Physical Size: 179.3 ft.³ Physical Weight: 5,278 lbs. Power Consumption: 33 kW	Physical Size: 28 ft.³ Physical Weight: 1,316 lbs. Power Consumption: 18.9 kW	• 5.4X reduction in size • 3X reduction in weight • ¾ reduction in power • Greater unit mobility and fuel economy

Depicts a transition for a Heavy Division (i.e. 4ID)

MCS-L Provides an Integrated Suite of Battle Command Tools

Maps and Overlays

Plan Manager

Overlay Management

Joint and Army Order Development & Dissemination

Viewing & Printing Overlays

DTED – 3D Perspective

Force Ratio

U2 Image

Task Organization & Order of Battle

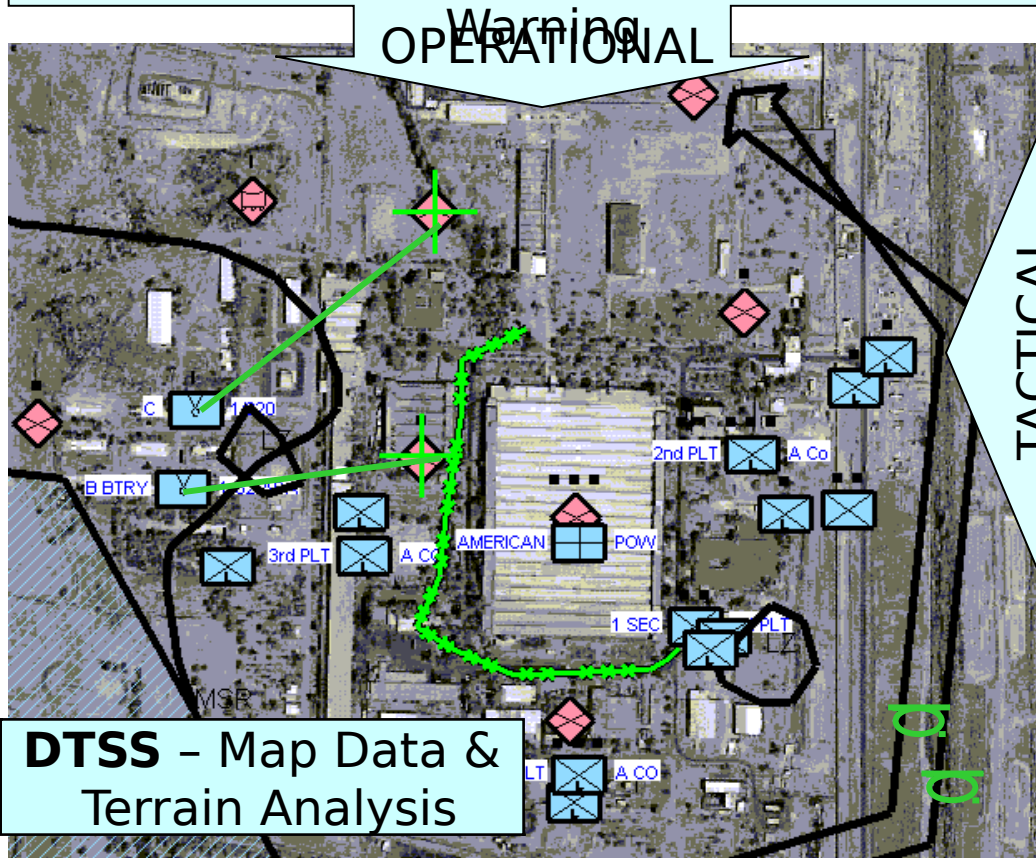Resource Tracking & Slant Report Generation

Plus:

- **Staff Journal**

- **JVMF Messaging**

- **Integrated Office Package**

- **Security Services**

- **Collaborative Tools**

MCS-L Integrates Operational and Tactical Data

GCCS/GCCSA/IOS Server via C2PC Gateway – BFT, Joint, Coalition units and platforms, Air Tracks & TOP COP Red, TBMD Warning

OPERATIONAL

TACTICAL

ASAS – Tactical Hostile correlated picture

AFATDS – Targets, Call For Fire Lines, Fire Support Graphics, Fire Support Units with kill areas

AMDWS – Missile Threats, AD (SAMS), fixed and rotary wing air tracks

JWARN – NBC 3-5 Hazard & Prediction Overlays

TAIS – Air Control Measure Overlay

FBCB2 – Platforms, Obstacle & Bridge Reports, FRAGOS, Overlays , Threat Warning, Text messages

DTSS – Map Data & Terrain Analysis

New in MCS-L 6.3.3.3 on 22 Sept

Representative MCS-L Warfighter Implementation

- Employment "Rules of Thumb"
  - Every BFA / Command has PC's that are hooked to TACWEB, use Outlook, and run MCS-L
  - MCS-L is the primary COP tool
  - MCS-L is a primary tool for the G3, G2 Current Opns, G4 MTO, and other users without a system of record (MP, Chaplain, attachments, etc)
  - Most Divisions have created and maintain an extensive unit web based capability that MCS-L links to for information management and sharing

2ID CDR Receiving G2 BUB update via MCS-L

MCS-L in Bde Engineer Cell

ROK Soldier managing historical and protected sites overlay on MCS-L

Employment On PC's With All BFA's And Units Enables A Common Operational Picture

6.3 MCS-L Enhancements Implemented For OIF II / OEF

- MCS provides additional interfaces that will enable the MCS-L system to enhance an integrated display of the integrated COP picture.

- MCS currently provides an integrated picture for blue, red from ASAS, NBC from JWARN, ACO from TAIS, and graphics and targets from AFATDS. The plan is to add the following interfaces to MCS-L 6.3D:

  - **AFATDS Client Interface**
  - **AMDWS Client Interface**
  - **Host & Integrate C2PC Data Tier**
  - **Near Real Time Server (NRTS) For Bottom Up Live Feed**

- These interfaces will improve the MCS-L integrated blue picture by aligning it with the Joint C2PC data tier.

- Using this interface MCS-L can directly interface with a GCCS, GCCS-A, IOS server or connect to an existing C2PC Gateway in a TOC.

- The AFATDS client interface will provide the commander with a near real time target status, FS unit positions and lines of engagement. The AMDWS client will provide a near real time display of air tracks, air defense units and missile threats. The NRTS will provide a direct interface to FBCB2 for receipt of platform position updates.

"C2 Systems As-Is" Systems/Shortfalls (Sep '03)

	Army	USMC	SOF
Joint	GCCS-J/C2PC		
Corps	GCCS-A/ C2PC	GCCS-J/ C2PC	GCCS-J
DIV			
BDE	MCS		
BN			NA
CO	FBCB2	DACT/ C2PC	
PLT/ SQD/ TM			Cobra Family, Lynx, MTX

Shortfalls

Horizontal interop. seam between Services

Different systems with similar yet different applications available to provide C2, SA and staff functions

Different BFT systems between agencies that are not interoperable for a variety of reasons: spiral upgrades, comms, TTP and security issues.

Bottom Line: no single, complete SA picture for operating forces, nor common tools to enable Joint Ops

Proposed Way Ahead

	Army	USMC	SOF
Joint	GCCS-J/JCW		GCCS-J/JCW
Corps	GCCS-A/JCW	GCCS-J/JCW	
DIV	Joint COP Workstation (JCW)		
Brigade			
BN	FBCB2/BFT		
CO			
PLT/SQD/TM			

MCS Training Objectives

- **Train an understanding of how to integrate and leverage MCS to enable units to accomplish assigned missions**
- **Provide training and support to every deploying unit**
  - **Support will be tailored to unit needs and may change throughout deployment**
- **Training products will be placed on the BCTID web site for easy download**
- **The Software User Manual (SUM) will be part of the software install to ensure that it is available to all users**
- **Reinforce that the knowledge of using MCS is a perishable skill and must be integrated in unit training plan**

MCS presence in TRADOC

- **CGSC**
  - **SGSOC**
  - **CAS3**
  - **SAMS**
- **USASMA (ABCS)**
  - **Battle Staff Course**
    - **Plans, orders and annexes**
    - **Digital MDMP**
  - **Sergeant Majors Course**
    - **ABCS overview**
- **Infantry School (SQL)**
- **Armor School (SQL)**

Training Products

- **NET for Mission Application User (MAU)**
  - **Lesson Plans generated from the Automated System Approach to Training (ASAT) database**
  - **SUM which is an Interactive Electronic Technical Manual (IETM)**
  - **Student Handbook**
  - **Integrated help products in MCS-Light**
- **NET for Mission Application Administrator (MAA)**
  - **System Administration Manual (SAM) that is an IETM**

Training Products continued

- **MAU Sustainment Training**
  - **Computer Based Training (CBT)**
    - **Interactive Multimedia Instruction (IMI) Level 2 and 3**
  - **SUM which is an IETM**
  - **Integrated Help**
  - **BCTID web site**

- **MAA Sustainment Training**
  - **Can only maintain proficiency by actually supporting the users while they use the system**
  - **SAM which is an IETM**

MCS Key Training Tasks

- **Moving from a UNIX based systems to a Windows based systems leverages user familiarity & increases retention**
- **User tasks inputted into ASAT database will ensure that training products will have a common base line**
  - **Collective tasks developers will be able to utilize the ASAT database for TSP creation**
- **Ensuring that users are aware of where to find documentation and help**

- **Completing SAT and ASAT Training for Lockheed Martin so that they are qualified to input tasks into the ASAT database**
- **Identification of critical MAA task from the proponent**
- **How does a new user that has no previous training on MCS-Light learn the system**
  - **(Currently MCS-Light for Dummies)**
- **Supporting System of System training to ensure that the user gets the most out of the MCS-Light product**

Summary

- **MCS is A Leader in Army C2 Transformation**
  - **More Than A Software System - An Evolution Towards A Suite Of Services And Applications, Leveraging The Expected User Environment**
  - **We Understand Users and Have Implemented Their Desires**
  - **We Have Enabled The PEO To Rethink ABCS 7.0 and Provide a Better Battle Command Solution**
  - **We Continue to Seek Ways to Rapidly Insert Good Ideas**
- **MCS Is the Army Tactical COP**
  - **MCS-L is a primary tool for the G3, G2 Current Opns, G4 MTO, and other users without a system of record (MP, Chaplain, attachments, etc)**
- **Training MCS at all levels is vitally important**
  - **Incorporating MCS-Light in the unit training plan will ensure users stay proficient**

"The End Result of Inefficient And Ineffective Integration Is Death"

COL Coleman
1st MEF CofS